DAIRY NOTES

Water for Milk Cooling.

Success in butter making depends very largely on the amount of water available and its quality, both as to purity and temperature. Where milk has to be shipped to the city, or to the creamery or bottling plant, it must, immediately after being drawn, be cooled to a temperature as near 50 degrees as possible. The farmer who has a large supply of ice will find no trouble in obtaining these results, but most farmers have no ice in sufficient quantities to enable them to cool the milk twice a day throughtout the entire milking season. In the northern climates the farmers have below them a source of water supply that is seldom fully utilized. Twenty feet below the surface of the ground begins the zone of thermal equilibrium. This zone extends down to about 80 feet in depth. This means that there is a layer of about 60 feet of earth that has a uniform temperature throughout the year. This temperature decreases as we go north and increases as we go south. In Manitoba the temperature is about 40 degrees, in northern Wisconsin about 45, in northern Illinois around 50, and a little south of that about 55 degrees. The writer tested the water at one Illinois creamery and found it to have a temperature of 50 degrees. This water was being used in the cooling of milk. It will thus be seen that a farmer who has a well from 30 to 40 feet deep has reached well into the zone of thermal equilibrium. If the water is drawn from the bottom of the well instead of from the surface, the farmer has a fair substitute for ice. Every farmer should have a windmill, or some other mechanical power for the raising of water. In such a case he can pump a steady stream of water into the vat in which his cans are placed and the milk will be quickly reduced from its temperature of over 90 degrees to about 50 degrees. This supply of cold water is too often not utilized. It is no uncommon sight in traveling through the country to see a can of milk sitting in a tub of water beside the well curb. The tub has been filled with surface water from the well and has been quickly raised in temperature by the heat escaping from the can. It is not surprising that in such milk, lactic acid ferments develop rapidly, and that the milk keeps for but a short time. Such milk, instead of having a temperature of 50 degrees, will be found to have a temperature nearer 70, which is a temperature admirably adapted to the multiplication of bacteria.

Retain the Humus.

What is known as humus in the soil is vegetable matter in the process of decay. Some of this vegetable matter decays in a few weeks, while others require several years to change their form. This mass of vegetable matter in the soil adds bulk to it, which bulk both helps to let in the air and to retain moisture. The decaying vegetable matter holds more moisture than the soil particles, and it has been shown that soil rich in humus has a larger per cent of moisture at all times of year than does soil out of which the humus has been exhausted. Humus is destroyed not only by this natural tendency to decay, but by its exposure to the sun, when it has been turned up by the plow. It is also destroyed by quicklime, which in doing so liberates the plant food. For this reason the application of fresh lime to soil is frequently destructive in its results. The loss of humus in the soil weakens it in regard to its ability to resist drouth and to produce crops.—Augustus Mihill, Adams Co., Ill.

In Canada there is a movement in favor of central curing stations for cheese.

LIVE STOCK

Breeds of Cows and the Color of Butter.

Breeds of cows are noted for the variations in the color of their butter. The breed that produces the highest color of butter is the Guernsey, a breed that originated on the Island of Guernsey in the British Channel. This breed may come to be extensively bred and used on account of the high color it gives the butter. Moreover, the color of the butter from this breed is high even in winter and on dry feeds. If there comes a time when butter contains only the color naturally found in it, doubtless Guernsey cows will be at a premium. Next to the Guernsey stands the Jersey, whose butter is also yellow, yet not so yellow as that of the Guernsey. Durham cows produce sometimes a fairly colored butter, but at other times and with other individuals the butter is nearly white. Ayrshires and Holsteins produce a butter that is yellow only in the summer time and on green feeds. In the winter it is nearly white. In the butter made from our native cows there are all gradations of color. This is due to the fact of their mixed-up origin. The old Devon breed, which was the foundation stock in some localities on the eastern coast, gave milk that was very richly colored, while many of the other animals gave nearly white milk. The result is that their descendants give milk that has no particular characteristic as to color.—Adelbert Shadberger, Boone Co., Mo.

Acid Strength of Vinegar.

In some of our states the pure food laws regulate the strength of vinegar and it is quite generally required that cider vinegar shall have at least 4.5 per cent of acetic acid. It is assumed that if the vinegar does not come up to this requirement the product has been adulterated by the adding of water. Yet it is a fact that can be demonstrated that some of the cider made from apples will not produce vinegar that has the required amount of acetic acid. This seems never to have been considered by the legislators. If partly ripe apples are used or if the apples have passed beyond their prime they sometimes do not contain enough sugar to produce 4.5 per cent of acetic acid in the vinegar. We do not say that the law should be changed, but warn farmers to use fully matured apples. It is also the part of wisdom to avoid the soaking of the pomace with water and squeezing it a second time to get out more of the juice. It is true that if the vinegar is to be used at home this may make no difference, but it may if the vinegar is to be sold on the market. If cider has been made from unripe apples or soaked pomace the water content may be reduced by giving it an opportunity to evaporate a certain per cent of water while it is undergoing the chemical changes required to make it into vinegar.

Useless Work of Inspection.

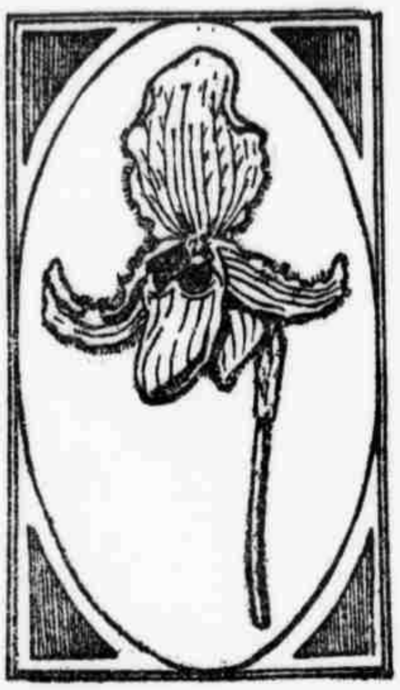
Much of the work being done by the Illinois Dairy and Food Commission is wasted effort. Men are sent around to the various creameries and make elaborate reports of everything connected with the creameries. These reports are published annually, and that is all there is to it. No prosecutions are undertaken, and we fail to see where anything comes of the work, except that the officials find some way to earn their salaries. There could be but one reason for having the Dairy and Food Commission inspect the dairies, and that is to prevent unhealthful conditions existing. The mere making and publishing of a report does not affect the situation at all.

ORCHID RAISERS SING PRAISE.

Rare Specimen Sought for Years Is Found in Tibet.

Great excitement has been caused among orchid collectors by the information that a rare specimen whose habitat for nearly fifty years has been sought in vain has been rediscovered.

There came to London in 1857, from India, a miscellaneous stock of orchids. They were duly sold at auction, and some of them were bought by a Mr. Fairlie of Liverpool. In his possession they bloomed, and one of them was recognized as a variety previously unknown and of singular beauty. It was named after its owner—Cypripedium Fairieanum. The Indian collection contained several other



Cypripedium Fairieanum.

Whose native haunt on the Tibet border has been rediscovered, after being lost fifty years.

specimens of the same plant and keen was the competition that ensued for their possession. But most of the purchasers simply wasted their money, the plants did not flourish. The original stock dwindled and died. For many years there has been only one specimen in existence among orchid collectors, and a diminutive one at that. But its possession has been sufficient to confer additional distinction on its distinguished owner, Sir Trevor Lawrence, president of the Royal Horticultural Society. The aim of every orchid enthusiast is to get hold of an orchid that nobody else has. Sir Trevor has several times been offered big sums for his puny Fairieanum, but nothing could induce him to part with it.

The Tibet expedition, which sought to open up the Forbidden Land to the trade of India, brought back specimens of pretty nearly everything that could be obtained in that grim region. One member of the mission who was a botanist discovered a lot of orchids, which were sent to Calcutta. From thence two of them were dispatched to Kew Gardens. One of them has just flowered and experts have pronounced it the long sought and rediscovered Fairieanum.

Curious Epitaphs.

Close to the principal entrance to old Kirk Braddan (Eng.) churchyard is a stone which probably not one in a thousand of the thousands of visitors who assemble there Sunday by Sunday ever notice. It has engraved upon it the following curious intimation: "Here unlerlyeth the body of the Rev. Mr. Patrick Thompson, minister of God's Word forty years, at present vicar of Kirk Braddan, aged sixty-seven, Anno 1678, deceased An. 1689." The reverend gentleman had his tombstone erected eleven years before he died. The incident, however, is not so uncommon as would at first appear. There is erected a stone in Onchan (I. O. M.) churchyard today, sacred to the memory of a man who is still alive.